

Waste Management - Focused on Outcomes



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Mission

- ◆ Provide integrated management for the treatment, storage, and disposal of solid waste and liquid effluents.
- ◆ Provide specialized support services and expertise to other Hanford projects and contractors.
- ◆ Responsibility for oversight, coordination, and technical evaluation of designated offsite waste streams.
- ◆ Project operations are conducted in a safe and environmentally sound manner that is in compliance with applicable regulations and standards.



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Scope - Solid Waste Storage & Disposal

- ◆ **Provide capabilities to store and dispose of solid wastes for both onsite and offsite generators**
- ◆ **Provide generator/waste acceptance/verification services**
- ◆ **Operate Waste Storage Facilities**
 - ◆ **Central Waste Complex**
 - ◆ **Transuranic Waste Storage Modules**
 - ◆ **Mixed Waste Trenches**
- ◆ **Operate Low Level Burial Grounds**



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Scope - Solid Waste Treatment

- ◆ **Treat solid wastes for both onsite and offsite generators**
- ◆ **Operate Solid Waste Treatment Facilities**
 - ◆ **Waste Receiving and Processing Facility**
 - ◆ **T Plant Complex**
- ◆ **Manage Waste Treatment Contracts**
- ◆ **Provide capabilities to decontaminate equipment**
- ◆ **Perform Transuranic verification for the Hanford Site**



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Scope - Liquid Effluents

- ◆ **Provide Integrated Liquid Effluent Management to Support Cleanup of the Hanford Site**
- ◆ **Cost effectively manage current and future liquid effluent streams in accordance with State and Federal Regulations**
- ◆ **Provide an infrastructure for collecting, treating, and disposing of liquid effluents**
- ◆ **Provide waste volume reduction for the River Protection Project to eliminate the need to construct additional tanks**



Scope - Liquid Effluents

- ◆ **Operate the following Liquid Waste Processing Facilities**
 - ◆ **200 Area Treated Effluent Disposal Facility**
 - ◆ **Effluent Treatment Facility**
 - ◆ **Liquid Effluent Retention Facility**
 - ◆ **242-A Evaporator**
 - ◆ **300 Area Treated Effluent Disposal Facility/
307 Retention Basins**



Scope - Waste Encapsulation and Storage Facility

- ◆ **Waste Encapsulation and Storage Facility provides interim safe storage for 1,936 capsules containing approximately 134 million curies of cesium-137 and strontium-90**
- ◆ **The capsules are planned to be transferred to the River Protection Project for final disposition beginning in 2012 with the last shipment occurring in 2015**



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Assumptions -- Solid Waste

- Solid Waste Facilities will continue to receive wastes from onsite and offsite generators
- Additional waste disposal capacity will need to be developed
- Thermal treatment of Mixed Low-Level Waste will begin in 2001
- Non-thermal treatment will continue
- Waste Isolation Pilot Plant certification will be obtained and shipments of Transuranic waste offsite will begin this year
- Transuranic waste retrieval activities continue this year



Assumptions -- Liquid Waste

- The 242-A Evaporator will have one or two operating campaigns per year for the next several years
- The Liquid Effluents facilities will be available to store, treat and dispose of liquid effluents
- The 242-A Evaporator will operate through the end of the River Protection Project Privatization Phase 1 in 2018. Replacement evaporation capability will be provided by the Phase 2 Privatization contractor
- The Liquid Effluent Retention Facility and Effluent Treatment Facility will operate through 2030 in support of the River Protection Project Phase 1 and Phase 2 Privatization



Assumptions -- Waste Encapsulation and Storage Facility

The cesium and strontium capsules in the Waste Encapsulation and Storage Facility are planned to be transferred to the River Protection Project for final disposition beginning in 2012 with the last shipment occurring in 2015.



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Priorities

River Corridor:

- Prepare T Plant to receive K Basins sludge
- Support waste receipts from River Corridor waste generators
- Treat liquid effluents from 300 Area waste generators

Central Plateau

- Operate facilities in a safe, compliant, and cost effective manner
- Continue Transuranic waste retrieval and start Transuranic waste shipments to the Waste Isolation Pilot Plant
- Support tank waste management by operating the 242-A Evaporator to reduce the volume of liquid waste



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Priorities (continued)

Central Plateau (continued)

- Operate the Liquid Effluents facilities in support of ongoing site cleanup activities including removal of spent fuel from K Basins, groundwater remediation, and disposal of solid wastes
- Continue to provide safe storage for the cesium and strontium capsules in the Waste Encapsulation and Storage Facility

Multi-Outcome:

- Support commercial offsite treatment of Mixed Low-Level Waste



Accomplishments

- ◆ Achieved **all** 10 TPA milestones
- ◆ Met Safety Performance Goals **while ramping up field and production activities**
- ◆ Initiated transuranic waste retrieval 14 months ahead **of the TPA milestone (M-91-04)**
- ◆ Initiated onsite Mixed Low Level Waste disposal (**first in the DOE Complex**) over a year and a half early (**M-91-13**)
- ◆ **Initiated** transfer of Mixed Low Level Waste from storage **at the Central Waste Complex** to disposal **in the mixed waste trench**



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Accomplishments

- ◆ **Project** cost efficiencies funded \$6.9M **of previously unfunded work and accelerated \$600K from FY 2000**
- ◆ **Received** high marks in the initial audit **for the Waste Isolation Pilot Plant certification of the Hanford program**
- ◆ **Completed** nondestructive examination on **463 drums and 34 boxes, and nondestructive assay on 253 drums at WRAP**
- ◆ **Processed 220 million gallons of waste water through the Effluent Treatment Facility, 200 Area Treated Effluent Disposal Facility, and 300 Area Treated Effluent Disposal Facility**



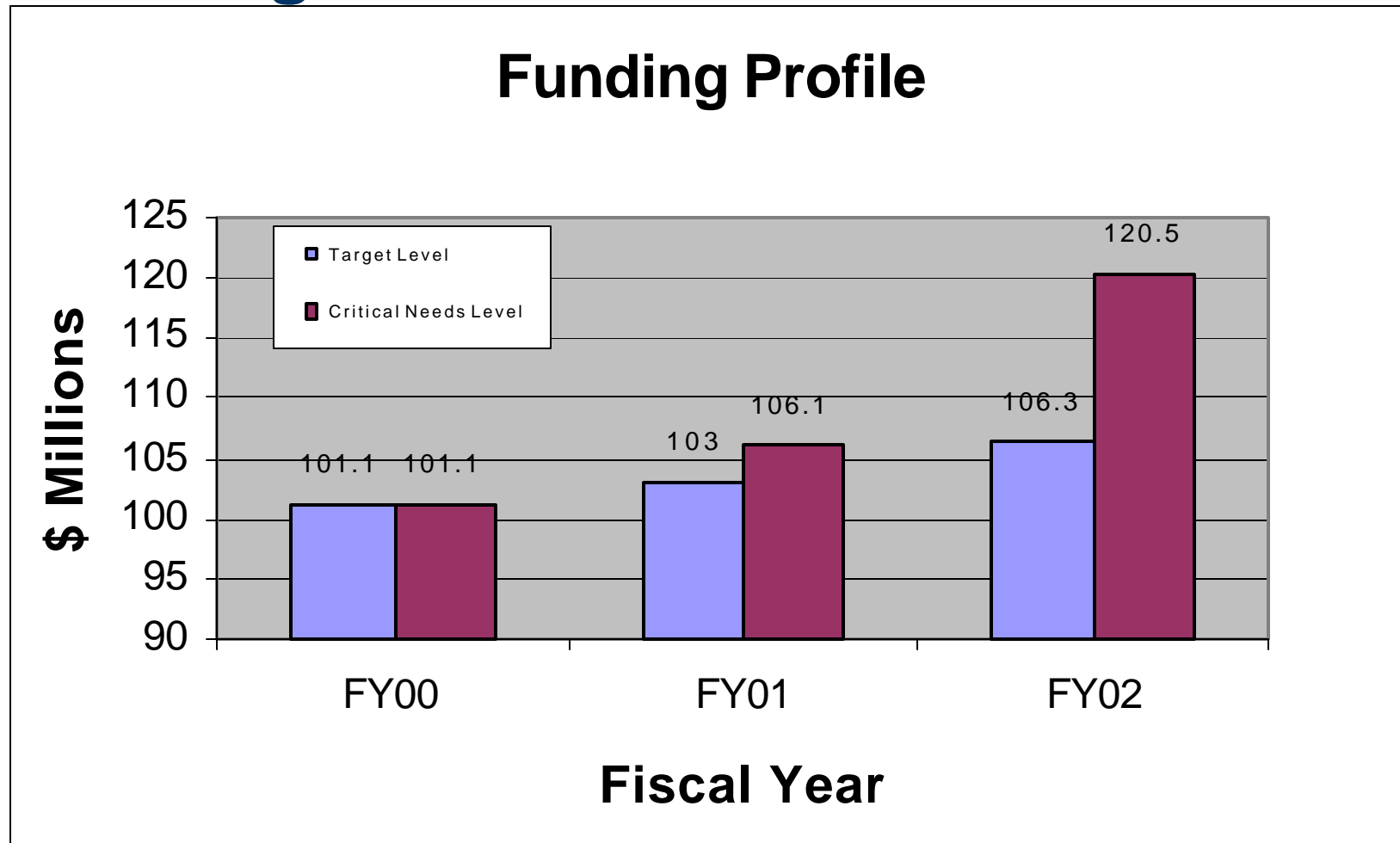
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Workscope Comparison

<u>Description</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY02</u> + 10%
<u>River Corridor:</u>				
•K Basins Sludge Storage	partial	✓	✓	✓
<u>Central Plateau:</u>				
•Transuranic Retrieval	unfunded	unfunded	unfunded	partial
•Waste Isolation Pilot Plant Shipments	✓	✓	✓	✓
•Multi-Outcome:				
•Mixed Low-Level Waste Treatment	partial	partial	partial	partial



Funding Profile





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Accomplishments

River Corridor:

- Begin storing K Basins sludge at T plant beginning in 2003.

Central Plateau:

- Continue to operate Waste Management facilities in a safe, compliant manner to support Hanford Site cleanup.
- Life extensions of the 242-A Evaporator will be completed.
- Preparations to receive liquid effluents from the new British Nuclear Fuels Limited Waste Treatment Facility will be completed

Multi-Outcome:

- Begin commercial thermal treatment of mixed waste in 2001.



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Issues

River Corridor:

Central Plateau:

- **Funding is not sufficient to complete all TPA milestones on schedule**

M-91-07, CH Transuranic/Transuranic Mixed Waste Retrieval

**M-91-08, Construction of Transuranic/Transuranic Mixed
Waste Facility**

Multi-Outcome:

- **Funding is not sufficient to complete facility upgrades needed for regulatory compliance or to extend the facility operating life.**